

REMARKS

Reconsideration and allowance are respectfully requested based on the amendments and remarks herein. By this Amendment, claims 1, 29, 42, 68, 93, and 102-107 are amended. Claims 1-45, 68-78, and 93-114 are pending.

I. Specification

The Examiner objected to the Title of the Invention as “not descriptive.” The Applicants have amended the Title of the Invention herein.

II. Claim Objections

Claim 107 was objected to because of a noted informality. The Applicants have amended claim 107 to depend from claim 106.

III. Claim Rejections – 35 U.S.C. § 103

Claims 1-45 and 93-114 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheon (U.S. Patent No. 5,744,937). The Applicants have amended independent claims 1, 29, 42, 93, and 106 to more precisely describe embodiments of the invention. Claims 102-105 also have been amended consistent with the amendments to claim 93.

A. Independent Claim 1

Amended independent claim 1 recites:

1. An electrical combination comprising:
a first battery having a first plurality of battery cells, each cell in the first plurality having a Lithium-based chemistry, the first battery having a first nominal voltage in a nominal voltage range;
a second battery having a second plurality of battery cells, the total number of cells in the first plurality being different than the total number of cells in the second plurality, each cell in the second plurality having a Lithium-based chemistry, the second battery having a second nominal voltage,

the second nominal voltage being different than the first nominal voltage and being outside of the nominal voltage range; and

a battery charger operable to charge the first battery and the second battery.

Cheon does not teach or suggest at least the above limitations of claim 1 in boldface print.

Cheon discloses a dual battery charging device for charging NiMH or Lithium-ion batteries. (Abstract.) All batteries disclosed in Cheon, including the battery pack 30, are single-cell batteries. Moreover, the charge circuit 10 and sensing controller 20 of Cheon, as well as the battery pack 30 itself, are totally devoid of circuitry capable of charging multi-cell batteries, such as Lithium-based batteries of different nominal voltages. (See, e.g., Figure 1.) To the contrary, the sensing controller 20 determines the battery voltage of the single-cell battery pack 30 as a whole. (See, e.g., col. 4, line 65 to col. 5, line 1.) Nor is there any motivation to modify Cheon to function with multi-cell Lithium batteries. Such a modification would change the fundamental principle of operation of Cheon. Additionally, the prior art teaches away from such a modification because prior attempts to employ Lithium-based chemistries for high current discharge applications have been unsuccessful.

Therefore, Cheon does not teach or suggest an electrical combination comprising, among other things, **“a first battery having a first plurality of battery cells, each cell in the first plurality having a Lithium-based chemistry...; a second battery having a second plurality of battery cells, the total number of cells in the first plurality being different than the total number of cells in the second plurality, each cell in the second plurality having a Lithium-based chemistry...; and a battery charger operable to charge the first battery and the second battery,”** as recited in claim 1. Accordingly, claim 1 is allowable. Because of their dependence from claim 1 and additional patentable features recited therein, dependent claims 2-28 are allowable.

B. Independent Claim 29

Amended independent claim 29 recites a method of charging a battery, comprising, among other things, **“charging the first [Lithium-based] battery via a pulse charge; ... and**

charging the second [Lithium-based] battery **via a pulse charge.**” Cheon does not teach or suggest these limitations.

The charging circuit 10 and sensing controller 20 of Cheon employ constant-current and constant-voltage charging schemes in standard or quick modes. (See, e.g., col. 2, lines 25-29; col. 4, lines 1-7; FIG. 1.) Cheon is devoid of any teaching or suggestion to charge batteries in a pulsed mode. Modifying Cheon to employ pulsed charging would change the fundamental principle of operation of Cheon. Further, Cheon teaches away from such a modification because a constant charging mode is markedly different than a pulsed charging mode.

Therefore, Cheon does not teach or suggest “charging the first [Lithium-based] battery **via a pulse charge**; ... and charging the second [Lithium-based] battery **via a pulse charge**,” as recited in claim 29. Accordingly, claim 29 is allowable. Because of their dependence from claim 29 and additional patentable features recited therein, dependent claims 30-41 are allowable.

C. Independent Claim 42

Amended independent claim 42 recites a Lithium-based battery comprising, among other things, “a plurality of battery cells, each cell in the plurality having a Lithium-based chemistry,” and “a chemistry identification component indicative of the chemistry of the plurality of battery cells.”

As discussed above in connection with claim 1, Cheon merely discloses single-cell batteries, and there is no motivation to modify Cheon to incorporate multi-cell batteries. For at least the above reasons, claim 42 is allowable. Because of their dependence from claim 42 and additional patentable features recited therein, dependent claims 43-45 are allowable.

D. Independent Claim 93

Similar to claim 1, amended independent claim 93 recites “a first battery having a first plurality of battery cells, each cell in the first plurality having a Lithium-based chemistry” and “a second battery having a second plurality of battery cells, the total number of cells in the first

plurality being different than the total number of cells in the second plurality, each cell in the second plurality having a Lithium-based chemistry.”

For at least the above reasons discussed above in connection with claim 1, claim 93 is allowable. Because of their dependence from claim 93 and additional patentable features recited therein, dependent claims 94-105 are allowable.

E. Independent Claim 106

Similar to claim 29, amended independent claim 106 recites “a battery charger operable to charge the first [Lithium-based] battery and the second [non-Lithium-based] battery and having a control circuit, **the control circuit operable to provide charging current to both the first battery and the second battery in a pulse mode.**”

For at least the above reasons discussed above in connection with claim 29, claim 106 is allowable. Because of their dependence from claim 106 and additional patentable features recited therein, dependent claims 107-114 are allowable.

IV. Claim Rejections – 35 U.S.C. § 102

Claims 68-78 were rejected under 35 U.S.C. § 102(b) as being anticipated by Cheon. The Applicants have amended independent claim 68 to more precisely describe embodiments of the invention.

Similar to claims 1 and 29, amended independent claim 68 recites, among other things, **“a first battery having a first plurality of battery cells, each cell in the first plurality having a Lithium-based chemistry; a second battery having a second plurality of battery cells ...; and a battery charger operable to charge the first battery and the second battery via pulse charging.”**

As discussed above in connection with claims 1 and 29, Cheon does not teach or suggest (1) multi-cell batteries or associated charging circuitry, and (2) pulse charging schemes. For at least the above reasons, claim 68 is allowable. Because of their dependence from claim 68 and additional patentable features recited therein, dependent claims 69-78 are allowable.

V. Conclusion

All objections and rejections have been addressed. It is respectfully submitted that claims 1-45, 68-78, and 93-114 are in condition for allowance. The undersigned is available for telephone consultation at any time.

Respectfully submitted,

A handwritten signature in cursive script, reading "Carlo M. Cotrone".

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